

ADJUSTABLE PEDAL CONTROLLER WITH OBSTRUCTION DETECTION

ABSTRACT OF THE DISCLOSURE

An adjustable control pedal includes an upper arm, a lower arm, and a drive assembly operatively connected to the lower arm to selectively move the lower arm relative to the upper arm. The drive assembly includes a drive screw, a drive nut cooperating with the drive screw such that the drive nut travels along the drive screw upon rotation of the drive screw, and an electric motor to selectively rotate the drive screw. A hall-effect sensor is located adjacent the drive screw and cooperates with a ring magnet rotatable with the drive screw to detect motion information, including distance and velocity information, upon rotation of the drive screw. The controller determines stall conditions of the lower pedal arm between the limits of travel based on the velocity information received during movement of the lower pedal arm to reduce injury or damage resulting from engagement with obstructions.